

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In Re Application of

Cermak

Group Art Unit: 1732

Serial No.: 10/614,456

Examiner: Heitbrink, Jill Lynne

Filed: 07/07/2003

For: METHOD FOR PRODUCING A ROLL BOOT

Docket No: GKNG 1165 PUS

**CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. § 1.8(a))**

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Date: June 19, 2006

Angie Moscowitz

**BRIEF ON APPEAL**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The following Appeal Brief is submitted pursuant to the Notice of Appeal dated April 19, 2006, for the above-identified application.

**I. Real Party in Interest**

The real party in interest in this matter is GKN Driveline Deutschland GbmH, which is the assignee of the present invention and application.

**II. Related Appeals and Interferences**

There are no other known appeals or interferences which will directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

**III. Status of the Claims**

Claims 1, 2 and 5-20 stand rejected in the Advisory Action mailed March 16, 2006. A copy of the claims on appeal is attached as a Claims Appendix. Claims 3 and 4 have been cancelled. Claims 8 and 11 should be cancelled as they are now redundant after the amendments accepted by the advisory action.

**IV. Status of Amendments**

No Amendments were filed after the final rejection of the Advisory Action.

**V. Summary of Claimed Subject Matter**

By way of summary, the present invention is related to a method for producing a roll boot for a constant velocity universal joint. All of the independent claims, namely claims 1, 2, 17 and 18, encompass several points of novelty, and since claims 5-16, and 19-20 depend from claims 1, 2, 17 and 18, they also contain at least the same points of novelty.

Independent claim 1 recites a method of producing a roll boot 11 for a constant velocity universal joint 110. A basic member 21 is injection molded to have a cylindrical portion 22 and a widened portion 23. The widened portion 23 is molded to have an approximately conical shape. See paragraph [0021] of the specification. After injection-molding the basic member 21, it is turned completely inside out. See specification paragraph [0024] of the specification. The widened portion 23 is then folded outwardly

such that it partially lies outwards of the cylindrical portion 22, forming a roll wall 23' of a finished roll boot 11. See paragraph [0022] of the specification.

Independent claim 2 recites limitations identical to claim 1, but additionally includes the limitation wherein the basic member 11 includes a cylindrical portion 22 and TWO widened portions (33,43). See paragraph [0023] of the specification.

Independent claim 17 recites limitations identical to claim 1, but additionally includes the limitation wherein the cylindrical portion 22 at its free end includes both an inner annular groove 24 for receiving a clamping band (see specification paragraph [0009]) and an inner annular bead 25 formed at the free end of the widened portion 23. See specification paragraph [0020].

Independent claim 18 recites limitations identical to claim 2, but additionally includes the limitation wherein the widened portion 23 further includes an inner annular bead 25 formed at the free end. See specification paragraph [0020].

Each of the aforementioned independent claims include novel aspects that are not taught or suggested by the prior art separately or in combination. The common novel aspects may be summarized as follows. The prior art fails to teach or suggest the novel steps of: a method of producing a roll boot 100 for a constant velocity universal joint 110 from an injection molded elastomer wherein the injection molded basic member 11 includes a cylindrical portion 22; the basic member 11 is turned completely inside out; and, thereafter, a portion of the basic member is folded over (claims 1, 17) or two portions are folded over onto themselves (claims 2, 18) to produce a finished roll boot 100 with certain stages of pre-stress in the material of the roll boot 100.

Claim 5 recites a method as in claim 1, wherein the widened portion 23 has a wall thickness that decreases from the cylindrical portion 22 to its free end. See specification paragraph [0018].

Claim 6 recites a method as in claim 2, wherein the TWO widened portions (33,43) have a wall thickness decreasing from the cylindrical portion 22 to their free ends. See specification paragraph [0018].

Claim 7 recites a method as in claim 1, but adding the limitation of forming an inner annular groove 24 to the cylindrical portion 22. See specification paragraph [0009].

Claim 8 recites a limitation identical to claim 7 and should therefore be cancelled.

Claim 9 recites a method as in claim 5, but again further addition the limitation of the inner annular groove 24. See specification paragraph [0009].

Claim 10 recites a method as in claim 1, but includes the limitation of an inner annular bead 25 formed at the free end of the widened portion 23. See specification paragraph [0020].

Claim 11 is redundant with claim 10 after the amendments accepted by the advisory action and should therefore be cancelled.

Claim 12 recites a method as in claim 5, but includes the limitation of an inner annular bead 25. See specification paragraph [0020].

Claim 13 recites a method as in claim 7, but includes limitation combination of inner annular bead 25 and inner annular groove 24. See specification paragraph [0009].

Claim 14 recites a method as in claim 2, but includes the limitation of an inner annular bead 25 formed at the free end of the widened portion 23. See specification paragraph [0020].

Claim 15 adds the limitation of inner annular beads 25 to claim 4. See specification paragraph [0020].

Claim 16 adds the limitation of inner annular bead 25 to claim 6. See specification paragraph [0020].

Claim 19 recites a roll boot 100 made according to the method of claim 1. See specification paragraph [0027].

Claim 20 recites a constant velocity joint 110 including a roll boot 11 made according to the method of claim 1. See specification paragraph [0027].

## **VI. Grounds of Rejection to be Reviewed on Appeal**

The sole issue presented in this appeal is whether claims 1,2 and 5-20 are patentable under 35 U.S.C. 103 over Harris (U.S. patent 3,013,920) in view of Douglass (U.S. patent 6,205,907). The stated issue directly corresponds with the Examiner's final grounds for rejection in the Final Office Action of December 27, 2005, hereinafter referred to as the "Final Office Action", and in the Advisory Action of March 16, 2006, hereinafter referred to as the "Advisory Action". Note that the Final Office Action utilized Chilton (U.S. patent 2,178,953) in combination with the above Douglass and Harris combination to reject claims 5 and 6. The Final Office Action further utilized Voss (U.S. 3,797,816) in combination with the above Douglass and Harris combination to reject claims 5-9 and 17. It is noted, however, that as the Douglass/Harris combination underlies all the rejections and that is it is highly desirable to limit the issues on appeal that the Applicant has selected to narrow the appeal solely to the Harris/Douglass combination rejection.

## **VII. Argument**

### **The Rejection of Claims 1-2 and 5-20 Under 35 U.S.C. §103(A)**

Claims 1-2 and 5-20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Harris in view of Douglass. Although claims 5, 6 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Harris in view of Douglass in further view of Chilton, for the purposes of this appeal the sole issues argued will be the underlying Harris in view of Douglass rejection. Similarly, although claims 5-9 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Harris in view of Douglass in further view of Voss, for the purposes of this appeal the sole issues argued will be the underlying Harris in view of Douglass rejection.

The Harris reference is directed toward a method of making a flexible diaphragm for fluid springs which, in final form, is closed at one end. The Harris reference is not directed towards rolling boots for constant velocity joints. The process starts with a strip of corded fabric which is wound along a substantially helical path about a mandrel

(Figure 1). The resulting tubular form is then expanded to a symmetrical shape (Figure 2). Thereafter, one end of the product is folded over and drawn along the remainder of the product to obtain a two-ply device (Figure 3). At this point, the product is only at an intermediate stage – it is not a finished product. Further, at this point, the product is only a two-ply corded material product – it is not rubber, it is not elastomer, it is not waterproof. Moreover, it is not intended to be used in this form. Rather, the product is then shaped on another form and equipped with bead wire bundles or solid metal bead wires in an outwardly extending resilient lip at its widened end (Figure 4). The process then continues by inverting the product, placing it in another apparatus, and closing off one end (Figure 5). Importantly, all of these steps take place with the rubber in an uncured state. Thereafter, the product is vulcanized (Figure 6). Thus, when finished, the product is completely free of any internal tensions or stress. Indeed, Harris is not concerned with anything other than making a resilient, waterproof diaphragm.

The Douglass reference is cited to show that injection molding is a known technique. Similar to Harris, however, Douglass is not directed toward injection molding of rolling boots for constant velocity joints. Further, Douglass is directed toward producing an item by injection molding in its final shape. Thus, no internal tension or stress is present in the device of Douglass, either.

MPEP 706.02(j) and 2143 requires that, to establish a *prima facie* case of obviousness, the prior art reference must teach or suggest all the claim limitations. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Rejections of obviousness must be based upon objective evidence of record and must be supported by particular findings as to why a skilled artisan, with no knowledge of the claimed invention, would have selected the specific components for combination in the manner claimed. In order for any prior art references themselves to be validly combined for use in an obviousness rejection under 35 U.S.C. §103, the references, or some other piece of prior art, must suggest that they be combined. *In Re Sernaker*, 217 USPQ 1, 6 (Fed. Cir. 1983). That is, the suggestion to combine the references must not come from the applicant's proposed invention itself. *Orthopaedic Equipment Co. vs. United States*, 217 USPQ 193, 199 (Fed. Cir. 1983). In order to establish a *prima facie* case of

obviousness, it is necessary to present evidence in the form of some teaching, suggestion, incentive, or motivation in the applied prior art that one of ordinary skill in the art would have been lead to combine the relevant teachings of the applied references in the proposed manner to arrive at the claimed invention. *Ex Parte Levengood*, 28 USPQ2d 1300-1301, 1302 (BPAI 1993). ("That which is within the capabilities of one skilled in the art is not synonymous with obviousness.") The focus must remain on what the prior art suggested to one of skill in the art at the time the invention was made.

### **Claim 1**

Reconsideration of Claim 1 is respectfully requested. The Examiner's combination of Harris and Douglass fails to disclose or suggest the following novel features of claim 1: a method of producing a roll boot for a constant velocity universal joint from an injection molded elastomer wherein the injection molded basic member includes a cylindrical portion; the basic member is turned completely inside out; and, thereafter, a portion of the basic member is folded over to produce a finished roll boot with certain stages of pre-stress in the material of the roll boot. Further, none of the references relied upon are directed toward Applicant's problem of relieving stresses in the roll wall of the boot for a constant velocity universal joint.

The Applicant submits that one of skill in the art would not be motivated to modify the Harris reference as the Examiner proposes, because the Harris reference is directed towards a different problem and a different resultant product. None of the references cited by the Examiner were directed towards relieving stresses in the roll wall of a roll boot for a constant velocity universal joint. Thus, to say that the missing claimed features of Harris come from the nature of the problem to be solved, evidences improper hindsight reconstruction because the Examiner fails to show that this problem is identified in any of the relied upon references. *In Re Zurko*, 111 F.3d 887, 890 (Fed. Cir. 1997). Thus, although the Examiner purports to recognize the need to identify a suggestion or motivation to modify the prior art, Applicant submits that the Examiner improperly relies upon the claimed invention as a template for modifying the prior art.

*ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984). ("It is impermissible to use the patent itself as the source of suggestion.").

Furthermore, while inversion may be a process step within the Harris reference, the product is only at an intermediate stage during this step – it is not a finished product. The Harris process, when finished, results in a product completely free of any internal tensions or stress. This is directly counter to purpose and the claimed steps of the present invention which are configured to generate certain stages of pre-stress in the material of the roll boot. As stated above, Douglass also generates no internal tension or stress in its resultant device. Thus the Examiner's assertion that it would have been obvious to use injection molding as taught by Douglass, yet still perform an inversion step among other things, as taught by Harris, cannot be supported. Accordingly, the Applicant respectfully requests this board to overturn the Examiner's rejections.

In further support of this request to overturn, the Applicant calls the Board's attention to the cases cited by the Examiner. These cases do not support the conclusion of obviousness. The natural consequence of combining Harris and Douglass would, at best, result in forming a resilient and waterproof diaphragm in a single injection molding process step. No inversion would be necessary. Further, the references complete lack of recognizing stress-related issues in the roll wall demonstrates that the combination was made only with improper hindsight in view of the present claims. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984). ("It is impermissible to use the patent itself as the source of suggestion."). There is no demonstration that the knowledge necessary to combine the references in the manner suggested comes from anything other than Applicant's solution. Nor do the advantages provided by the presently claimed device naturally flow from following any suggestions contained in Harris or Douglass. Further, no valid reason has been shown why one of ordinary skill in the art would modify the references to arrive at the claimed invention particularly because the references disclose different solutions to different problems than those addressed by the present application.

Accordingly, Applicant requests that the rejection of Claim 1 under 35 U.S.C. §103 be overturned.



**Claim 2**

Reconsideration of Claim 2 is respectfully requested. The Examiner's combination of Harris and Douglass fails to disclose or suggest the following novel features of claim 2: a method of producing a roll boot for a constant velocity universal joint from an injection molded elastomer wherein the injection molded basic member includes a cylindrical portion and two widened portions; the basic member is turned completely inside out; and, thereafter, two portions of the basic member are folded over to produce a finished roll boot with certain stages of pre-stress in the material of the roll boot. Further, none of the references relied upon are directed toward Applicant's problem of relieving stresses in the roll wall of the boot for a constant velocity universal joint.

The Applicant submits that one of skill in the art would not be motivated to modify the Harris reference as the Examiner proposes, because the Harris reference is directed towards a different problem and a different resultant product. None of the references cited by the Examiner were directed towards relieving stresses in the dual roll walls of a roll boot for a constant velocity universal joint. Thus, to say that the missing claimed features of Harris come from the nature of the problem to be solved, evidences improper hindsight reconstruction because the Examiner fails to show that this problem is identified in any of the relied upon references. *In Re Zurko*, 111 F.3d 887, 890 (Fed. Cir. 1997). Thus, although the Examiner purports to recognize the need to identify a suggestion or motivation to modify the prior art, Applicant submits that the Examiner improperly relies upon the claimed invention as a template for modifying the prior art. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984). ("It is impermissible to use the patent itself as the source of suggestion.").

Furthermore, while inversion may be a process step within the Harris reference, the product is only at an intermediate stage during this step – it is not a finished product. The Harris process, when finished, results in a product completely free of any internal tensions or stress. This is directly counter to purpose and the claimed steps of the present invention which are configured to generate certain stages of pre-stress in the

material of the roll boot. As stated above, Douglass also generates no internal tension or stress in its resultant device. Thus the Examiner's assertion that it would have been obvious to use injection molding as taught by Douglass, yet still perform an inversion step among other things, as taught by Harris, cannot be supported. Accordingly, the Applicant respectfully requests this board to overturn the Examiner's rejections.

In further support of this request to overturn, the Applicant calls the Board's attention to the cases cited by the Examiner. These cases do not support the conclusion of obviousness. The natural consequence of combining Harris and Douglass would, at best, result in forming a resilient and waterproof diaphragm in a single injection molding process step. No inversion would be necessary. Further, the references complete lack of recognizing stress-related issues in the roll wall demonstrates that the combination was made only with improper hindsight in view of the present claims. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984). ("It is impermissible to use the patent itself as the source of suggestion."). There is no demonstration that the knowledge necessary to combine the references in the manner suggested comes from anything other than Applicant's solution. Nor do the advantages provided by the presently claimed device naturally flow from following any suggestions contained in Harris or Douglass. Further, no valid reason has been shown why one of ordinary skill in the art would modify the references to arrive at the claimed invention particularly because the references disclose different solutions to different problems than those addressed by the present application.

Accordingly, Applicant requests that that the rejection of Claim 2 under 35 U.S.C. §103 be overturned.

### **Claim 17**

Reconsideration of Claim 17 is respectfully requested. The Examiner's combination of Harris and Douglass fails to disclose or suggest the following novel features of claim 17: a method of producing a roll boot for a constant velocity universal joint from an injection molded elastomer wherein the injection molded basic member includes a cylindrical portion; the basic member is turned completely inside out; and,

thereafter, a portion of the basic member is folded over to produce a finished roll boot with certain stages of pre-stress in the material of the roll boot. Further, none of the references relied upon are directed toward Applicant's problem of relieving stresses in the roll wall of the boot for a constant velocity universal joint.

The Applicant submits that one of skill in the art would not be motivated to modify the Harris reference as the Examiner proposes, because the Harris reference is directed towards a different problem and a different resultant product. None of the references cited by the Examiner were directed towards relieving stresses in the roll wall of a roll boot for a constant velocity universal joint. Thus, to say that the missing claimed features of Harris come from the nature of the problem to be solved, evidences improper hindsight reconstruction because the Examiner fails to show that this problem is identified in any of the relied upon references. *In Re Zurko*, 111 F.3d 887, 890 (Fed. Cir. 1997). Thus, although the Examiner purports to recognize the need to identify a suggestion or motivation to modify the prior art, Applicant submits that the Examiner improperly relies upon the claimed invention as a template for modifying the prior art. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984). ("It is impermissible to use the patent itself as the source of suggestion.").

Furthermore, while inversion may be a process step within the Harris reference, the product is only at an intermediate stage during this step – it is not a finished product. The Harris process, when finished, results in a product completely free of any internal tensions or stress. This is directly counter to purpose and the claimed steps of the present invention which are configured to generate certain stages of pre-stress in the material of the roll boot. As stated above, Douglass also generates no internal tension or stress in its resultant device. Thus the Examiner's assertion that it would have been obvious to use injection molding as taught by Douglass, yet still perform an inversion step among other things, as taught by Harris, cannot be supported. Accordingly, the Applicant respectfully requests this board to overturn the Examiner's rejections.

In further support of this request to overturn, the Applicant calls the Board's attention to the cases cited by the Examiner. These cases do not support the conclusion of obviousness. The natural consequence of combining Harris and

Douglass would, at best, result in forming a resilient and waterproof diaphragm in a single injection molding process step. No inversion would be necessary. Further, the references complete lack of recognizing stress-related issues in the roll wall demonstrates that the combination was made only with improper hindsight in view of the present claims. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984). ("It is impermissible to use the patent itself as the source of suggestion."). There is no demonstration that the knowledge necessary to combine the references in the manner suggested comes from anything other than Applicant's solution. Nor do the advantages provided by the presently claimed device naturally flow from following any suggestions contained in Harris or Douglass. Further, no valid reason has been shown why one of ordinary skill in the art would modify the references to arrive at the claimed invention particularly because the references disclose different solutions to different problems than those addressed by the present application.

Accordingly, Applicant requests that the rejection of Claim 17 under 35 U.S.C. §103 be overturned.

### **Claim 18**

Reconsideration of Claim 18 is respectfully requested. The Examiner's combination of Harris and Douglass fails to disclose or suggest the following novel features of claim 18: a method of producing a roll boot for a constant velocity universal joint from an injection molded elastomer wherein the injection molded basic member includes a cylindrical portion and two widened portions; the basic member is turned completely inside out; and, thereafter, two portions of the basic member are folded over to produce a finished roll boot with certain stages of pre-stress in the material of the roll boot. Further, none of the references relied upon are directed toward Applicant's problem of relieving stresses in the roll wall of the boot for a constant velocity universal joint.

The Applicant submits that one of skill in the art would not be motivated to modify the Harris reference as the Examiner proposes, because the Harris reference is directed towards a different problem and a different resultant product. None of the

references cited by the Examiner were directed towards relieving stresses in the dual roll walls of a roll boot for a constant velocity universal joint. Thus, to say that the missing claimed features of Harris come from the nature of the problem to be solved, evidences improper hindsight reconstruction because the Examiner fails to show that this problem is identified in any of the relied upon references. *In Re Zurko*, 111 F.3d 887, 890 (Fed. Cir. 1997). Thus, although the Examiner purports to recognize the need to identify a suggestion or motivation to modify the prior art, Applicant submits that the Examiner improperly relies upon the claimed invention as a template for modifying the prior art. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984). ("It is impermissible to use the patent itself as the source of suggestion.").

Furthermore, while inversion may be a process step within the Harris reference, the product is only at an intermediate stage during this step – it is not a finished product. The Harris process, when finished, results in a product completely free of any internal tensions or stress. This is directly counter to purpose and the claimed steps of the present invention which are configured to generate certain stages of pre-stress in the material of the roll boot. As stated above, Douglass also generates no internal tension or stress in its resultant device. Thus the Examiner's assertion that it would have been obvious to use injection molding as taught by Douglass, yet still perform an inversion step among other things, as taught by Harris, cannot be supported. Accordingly, the Applicant respectfully requests this board to overturn the Examiner's rejections.

In further support of this request to overturn, the Applicant calls the Board's attention to the cases cited by the Examiner. These cases do not support the conclusion of obviousness. The natural consequence of combining Harris and Douglass would, at best, result in forming a resilient and waterproof diaphragm in a single injection molding process step. No inversion would be necessary. Further, the references complete lack of recognizing stress-related issues in the roll wall demonstrates that the combination was made only with improper hindsight in view of the present claims. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984). ("It is impermissible to use the patent itself as the source of suggestion."). There is no demonstration that the knowledge necessary to combine the references in

the manner suggested comes from anything other than Applicant's solution. Nor do the advantages provided by the presently claimed device naturally flow from following any suggestions contained in Harris or Douglass. Further, no valid reason has been shown why one of ordinary skill in the art would modify the references to arrive at the claimed invention particularly because the references disclose different solutions to different problems than those addressed by the present application.

Accordingly, Applicant requests that the rejection of Claim 18 under 35 U.S.C. §103 be overturned.

#### **Claims 5 -16**

For the purposes of this appeal, claims 5 through 16 will be allowed to rise or fall with their independent counterparts.

#### **Claim 19**

Claim 19 is believed to be independently patentable and allowable for reasons set forth above since it depends on claim 1 and further recites the limitation for a roll boot made using said method. Harris or Douglass, either alone or in combination, fail to teach this combination.

#### **Claim 20**

Claim 20 is believed to be independently patentable and allowable for reasons set forth above since it depends on claim 1 and further recites the limitation for constant velocity joint including a roll boot made using said method. Harris or Douglass, either alone or in combination, fail to teach this combination.

### **VIII. Claims Appendix**

A copy of the claims involved in this appeal, namely Claims 1-2, 5-7, 9-10, and 12-20 is attached hereto as Appendix A.

**IX. Evidence Appendix**

None.

**X. Related Proceedings Appendix**

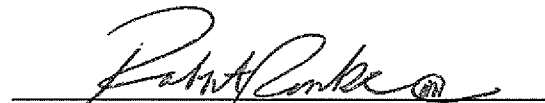
None.

**XI. Conclusion**

For the foregoing reasons, Appellant respectfully requests that the Board direct the Examiner in charge of this examination to withdraw the rejections.

Please charge any fees required in the filing of this appeal to deposit account 50-0476.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert P. Renke", is written over a horizontal line.

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**CLAIMS APPENDIX**

1. A method of producing a roll boot for a constant velocity universal joint from an injection-moldable elastomer, comprising the following steps:

injection-molding a basic member having a cylindrical portion and a widened portion, the widened portion having an approximately conical shape;

turning the basic member completely inside out; and

thereafter, folding the widened portion outwardly so that it partially lies outwards of the cylindrical portion, forming a roll wall of a finished roll boot.

2. A method of producing a roll boot for a constant velocity universal joint from an injection-moldable elastomer, comprising the following steps:

injection-molding a basic member having a cylindrical portion and two widened portions which adjoin said cylindrical portion at both ends, the widened portions having an approximately conical shape;

turning the basic member completely inside out; and

thereafter, folding the widened portions outwardly, so that they partially lie outwards of the cylindrical portion, forming roll walls of a finished roll boot.

5. A method according to claim 1, wherein the widened portion is injection-molded to comprise a wall thickness which decreases from the cylindrical portion to its free end.

6. A method according to claim 2, wherein the widened portions are injection-molded to comprise a wall thickness which decreases from the cylindrical portion to their respective free ends.

7. A method according to claim 1, wherein the cylindrical portion is injection-molded to comprise, at its free end, an inner annular groove for receiving a clamping band.



9. A method according to claim 5, wherein the cylindrical portion is injection-molded to comprise, at its free end, an inner annular groove for receiving a clamping band.

10. A method according to claim 1, wherein the widened portion is injection-molded to comprise an inner annular bead at its free end.

12. A method according to claim 5, wherein the widened portion is injection-molded to comprise an inner annular bead at its free end.

13. A method according to claim 7, wherein the widened portion is injection-molded to comprise an inner annular bead at its free end.

14. A method according to claim 2, wherein the widened portions are injection-molded to comprise inner annular beads at their respective free ends.

15. A method according to claim 4, wherein the widened portions are injection-molded to comprise inner annular beads at their respective free ends.

16. A method according to claim 6, wherein the widened portions are injection-molded to comprise inner annular beads at their respective free ends.

17. A method of producing a roll boot for a constant velocity universal joint from an injection-moldable elastomer, comprising the steps of:

injection-molding a basic member having a cylindrical portion and a widened portion, the cylindrical portion including, at its free end, an inner annular groove for receiving a clamping band, the widened portion comprising a conical shape, an inner annular bead at its free end, and a decreasing wall thickness from the cylindrical portion to its free end;

turning the basic member completely inside out such that the annular groove and annular bead are outwardly facing; and

thereafter, folding the widened portion outwardly so that it partially lies outwards of the cylindrical portion, forming a roll wall of a finished roll boot.

18. A method of producing a roll boot for a constant velocity universal joint from an injection-moldable elastomer, comprising the steps of:

injection-molding a basic member having a cylindrical portion and two widened end portions adjoining the cylindrical portion, each widened portion comprising a conical shape, an inner annular bead at its free end, and a decreasing wall thickness from the cylindrical portion to its free end;

turning the basic member completely inside out such that the annular beads are outwardly facing; and

thereafter, folding the widened portions outwardly so that they partially lie outwards of the cylindrical portion, forming roll walls of a finished roll boot.

19. A roll boot for a constant velocity joint made according to the method of claim 1.

20. A constant velocity joint comprising a roll boot made according to the method of claim 1.

## **EVIDENCE APPENDIX**

No evidence.

**RELATED PROCEEDINGS APPENDIX**

No related proceedings.